

Deliverable

D1.1: Mapping of Health Regions readiness for value-based PPI and mechanisms of identification of unmet health and health systems' needs. Reflection paper of common vision on cross-border value-based PPI. Overview list of national-regional health authorities' representatives for EURIPHI. Identification of current process of identification of unmet need

WP	1	Establishing an effective and sustainable cross-border European Value Based Community of Practice 'EURIPHI Value Based CoP' responding to Health Regions' needs.
Task	1.1 & 1.2	Co-creation and building out a European Innovative Procurement of Health Innovation Solution Community of Practice (EURIPHI Value Based CoP). Establish an EURIPHI Health and Social Care Regions Network.

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Deliverable abstract

The deliverable D1.1 reports the main outcomes achieved in EURIPHI WP1. It is divided into 4 paragraphs, to facilitate the reader in the comprehension of the activities performed. Each paragraph corresponds to a 'conceptual section' where the EURIPHI partners contributed. The deliverable clarifies on European regions presenting a good level of readiness when it comes of using Value-Based PCP/PPI to implement innovations into health and social care systems. Moreover, the deliverable clarifies on what are the unmet needs in integrated care and infectious diseases areas that represent a priority for policy makers. Finally, the deliverable informs about the EURIPHI Health & Social Care Regions Network shared view on joint cross-border value-based procurement.

Deliverable Review

Reviewer #1: Yves Verboven			Reviewer #2 Valentina Polylas Reviewer #3 Louis Potel		
Answer	Comments	Type *	Answer	Comments	Type *
Is the deliverable in accordance with					
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that needs further work by the Partners responsible for the deliverable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a

* Type of comments: M = Major comment; m = minor comment; a = advice

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1. Introduction

This deliverable D1.1 resumes the activities performed by the EURIPHI partners in the framework of Work Package 1.

The deliverable is divided into 4 conceptual sections, to facilitate the reader in its comprehension.

The paragraph *Readiness for Value-Based Public Procurement of Innovative Solutions (PPI)* provides an overview of countries and regions more advanced in using innovation procurement and adopting innovations to respond to unmet needs. More specifically, this paragraph informs the reader on what are the European regions applying (or willing to apply) value-based innovative procurement to respond to integrated care challenges identified in the EURIPHI Work Package 3 (the so-called Integrated Care Procurement Objectives or ICPOs). The sources used to assess the readiness of countries and regions in using innovation procurement are *The Strategic Use of Public Procurement for Innovation in the Digital Economy* – a report released by PwC; [eafip website](#); EURIPHI Deliverables D3.1 and 3.2

The paragraph on *Identification and prioritisation of unmet needs* clarifies what are the areas highest in decision makers' agenda – both overarching and clinical –where innovation should be considered to respond to unmet needs. The areas considered are Integrated Care and Infectious Diseases. The sources of information to feed this paragraph are the [TO-REACH Strategic Research Agenda](#); The Health Systems and Policy Monitor - European Observatory on Health Systems and Policies; results emerged from the EURIPHI deliverables D3.1, D3.3, D4.2 and D6.2.

The paragraph *Reflection paper on common vision on cross-border PPI* reports information gathered from the literature and EURIPHI events on the approach to adopt when it comes of performing joint cross-border PPI. More specifically, the paragraph aims to respond to the question '*Until which point in the procurement process there is a preference to perform cross-border joint procurement?*'. This information contributed to finalise the EURIPHI Health & Social Care Regions Network shared view on cross-border value-based procurement, which is mirrored in the D5.1 Principle of Cooperation and used as a base for future collaboration on EU Innovation Procurement across the borders

The paragraph *List of national and regional health authorities' representatives* informs on the process put in place by the EURIPHI partners to identify prospects to include in the EURIPHI Health & Social Care Regions Network. It also provides information on prospects that showed an interest and/or became members of such Network. These representatives have been also targeted to join the EURIPHI Value-Based Procurement Community of Practice, when they (or their agencies) are responsible for procurement.

Efforts have been made to highlight the interconnections with other Work Packages (WPs). Work Package 3's (WP3) results reflected into deliverables D3.1 and D3.3 have been used to assess regions' readiness for PPI (par. 3.1) and identification and prioritisation of unmet integrated care needs (3.2). Work Package 4's (WP4) D4.2 and Work Package 6's (WP6) D6.2 have been used for identification and prioritisation of unmet infectious diseases needs. The common view on cross-border procurement feeds the Work Packages 2 (WP2) and 5 (WP5), more particularly the activities performed in the Task 2.2 and D5.1. Yet, the EURIPHI Health & Social Care Regions Network and Community of Practice pave the way for a sustainable exploitation, forecasted in WP7.

2. State of the Art

Modernising the public sector in the EU is a key priority to keep the pace with today's societal challenges.

This is particularly true in the health sector, where improving efficiency and providing high quality sustainable health care in due time is crucial to cope with an ageing population, chronic diseases, co-morbidities, antimicrobial resistance, and many other issues.

To address such challenges, innovation and innovative solutions should be fostered, having citizens in good health should be a priority and incorporating 'value' and 'economic value' considerations in investment decisions in healthcare should be considered⁴. Value-Based Procurement of innovative solutions is becoming an unexpected driver to achieve these health systems goals.

Within this context, regions and local authorities are playing a crucial role to drive the demand - while identifying common unmet population and health systems' needs - and to invest resources in innovation/innovative solutions by means of innovation procurement.

This deliverable intends to clarify what are the most advanced countries and regions in Europe in using innovation procurement to ensure access of innovation/innovative solutions into health systems. Therefore, an overview on what are the common unmet needs - in the areas of integrated care and infectious diseases - representing a priority in national and regional policy makers' agenda.

Finally, the EURIPHI Health & Social Care Regions Network's view on cross-border procurement is provided.

The content of the deliverables has been developed with the contribution of EURIPHI partners and EURIPHI Health & Social Care Regions Network and review of the Advisory Board members.

3. Results and Analysis

3.1 Readiness for Value-Based PPI

Readiness for Value-Based PPI: Countries

To have an initial overview of readiness for Value-Based PPI, EURIPHI consortium identified and analysed the report *The Strategic Use of Public Procurement for Innovation in the Digital Economy*, released in March 2019 by PwC in support of the European Commission Directorate-General of Communication Network, Content & Technology (DG CONNECT). According to this report, the strategic use of innovation procurement - in general - can help to tackle social and global challenges, being a tool to modernise the public sector and speed up the time-to-market of innovations. However, the potential of innovation procurement to enable a transformation to value-based health care is not fully exploited.

PwC supported DG CONNECT in benchmarking the policy framework of innovation procurement of all EU Member States, Norway and Switzerland. The aim of the benchmarking is to map the progress made in each country on implementing a mix of policy measures to mainstream innovation procurement across all sectors of public interest. It allows to evaluate their performance in this field and assess the maturity of their policy system.

The digital readiness is an important benchmark as systems change. Integrated care is especially enabled by digital solution. EURIPHI is seeking for areas where digital solutions support health care

⁴ Economic Value as a guide to invest in Health and Care, 2016. Incorporating value in investment decisions in health across Europe. Atun et al, 2019. Request for an opinion to Expert Panel on Effective Ways in Investing in Health on Public Procurement in healthcare systems, April 2020.

transformation by enabling the deployment of integrated care solutions. Hence, understanding the readiness to incorporate digital solutions is a crucial point of the analysis.

The key output of the exercise above is the assessment of the national policy frameworks for innovation procurement based on ten indicators (*Official definition; Horizontal policies; ICT policy; Sectoral policies; Action plan; Spending target; Monitoring system; Incentives; Capacity building and assistance measures; Innovation friendly public procurement market*).

To provide a general overview on country readiness for PPI, we considered six out of ten indicators used for the assessment exercise performed in the abovementioned report. The choice of such six indicators mirror the availability of concrete plans and resources for innovation procurement at the country level, where innovation procurement is endorsed as a strategic priority in the health and social care sector. The six indicators are listed as follows: *Sectoral policies - Health care and social service; Action plan; Spending target; Incentives; Capacity building and assistance measures; Innovation friendly public procurement market*. The readiness for PPI in each country has been calculated as the sum of the scores of the six indicators listed above. Finally, the countries have been ranked and clustered into three categories corresponding to:

- High readiness: total score encompassed between more than 2 and 6
- Medium readiness: total score encompassed between more than 1 and 2 (included)
- Low readiness: total score encompassed between 0 and 1 (included).

The minimum and maximum values to define the categories have been chosen to ensure a fair distribution of countries in each category. The country with lowest score is Switzerland (0,31) and the one with highest score is Finland (4,49). The table reporting the results of this exercise and the definition of indicators considered is included in Annex I of this document.

The PwC report provides an in-depth and comprehensive comparative analysis on the use of Innovation Procurement in the European Member States (plus Norway and Switzerland), by considering public tenders below and above the threshold forecasted by the EU Directive on Procurement. Despite D1.1 is focused on the regional dimension, the results of the PwC report – which refer to the national dimension – is a sound starting point for further assessment. However, assessing regional readiness for value-based PPI remains a challenge.

Therefore, the EURIPHI Health & Social Care Regions Network members commented - during a webinar held on 8 May 2020 - that the countries readiness assessed as above reflects the interest of procurement organisations and health care providers to join consortia to respond to EU calls. The Network supported the need of advancing PPI/PCP EU funded initiatives in low readiness countries.

Readiness for Value-Based PPI: Regions and Local Authorities

The readiness for Value-Based PPI in Regions and Local Authorities has been assessed starting from the country-based exercise described in the section above.

The assessment results have been shared and further refined by EUREGHA which selected the regions in its network belonging to the countries ranked with the highest and medium readiness. The decision was to target the countries reflecting these two levels of readiness due to the score obtained in the indicators considered relevant for EURIPHI purposes (reported in Annex I). These regions have been contacted via emails and phone calls, to further explore their experience in using the instrument of Innovation Procurement as well as their willingness to join the EURIPHI Health & Social Care Regions Network. Yet, they have been invited to the EURIPHI breakfast meeting on 16 October 2019, to the EURIPHI Networking Lunch on 12 December 2019, to EURIPHI International Roundtable on 10 March 2020 and to EURIPHI Health & Social Care Regions Network webinar on 8 May 2020.

Among the targeted regions, the ones that confirmed to have experience in Innovation Procurement – as well as resources available to invest in innovations by means of PPI – are Andalusia, Flanders,

Buskerud, Basque Country, Catalunya, Galicia, Ostergötland, Skåne, England, Scotland and Wales. The list is not comprehensive.

The regions mentioned in the paragraph above – some of them already represented in the EURIPHI consortium – are complementing the regions belonging to the EURIPHI consortium, also positively assessed for Value-Based PPI readiness. The EURIPHI consortium regions – namely Campania, Puglia and Southern Denmark – have previous experience in applying EU Innovation Procurement and/or have put in place measures to do so (i.e. leveraging EU funded initiatives).

A further source of information is the European Assistance for Innovation Procurement ([eafip](https://eafip.eu/)) initiative, supporting local public procurers across Europe in developing and implementing innovation procurement. The aim of the eafip-initiative is to promote good practices and reinforce the evidence base on completed innovation procurements across Europe and to encourage other public procurers to start new PCP and PPI procurements⁵.

For the mapping of PPI readiness, we considered regional authorities and/or health providers that required assistance from eafip, regardless of the scope of the project to be implemented through PPI or PCP. Public procurers that we assume could be relevant for EURIPHI purposes are: Aragonese Health Service, (Spain), Canary Island Government (Spain) and Lombardy Region (Italy).

The readiness on Value-Based PPI has been further explored at the regional level in Austria, Finland and Capital Region of Denmark with the support of EUREGHA.

⁵ <https://eafip.eu/>

Table 1 Regions positively assessed for Value-Based PPI readiness

Country	Region
Belgium	Flanders
Denmark	Capital Region Region Southern Denmark
Italy	Campania Lombardy Puglia
Norway	Buskerud
Spain	Aragon Andalusia Basque Country Canary Island Catalunya Galicia
Sweden	Ostergötland Skane
UK	England Scotland Wales

Readiness for Value-Based PPI: specific focus on Integrated Care

This deliverable contains information on regions and local authorities' willingness to use Value-Based PPI in response to integrated care unmet needs.

The readiness for cross-border Value-Based PPI is an ongoing journey, which started in the framework of WP3 and more precisely with 2 surveys⁶ submitted to organisations involved in EURIPHI and regions, PPOs and care delivery organisations across Europe – whose results were used to finalise the D3.1.

The first survey addressed to EURIPHI procurement and care delivery organisations was aimed:

- to understand their priorities in relation to some of the identified procurement objectives;
- to identify if a PPO and/or care delivery organisation had already implemented an innovative solution to address one of the ICPOs elicited from the desk-top research exercise, and
- to gather any additional potential procurement objectives.

The survey was structured along five topics: stroke, dementia, COPD, aortic stenosis and multimorbidity. For more information on the selection of the topics, please, refer to paragraph 3.2.

In the survey, EURIPHI regions and PPOs were asked to rate each of the 37 Integrated Care Procurement Objectives (ICPOs) according to its importance for a future procurement activity in their region/organisation. The purpose was to learn whether their region/organisation intends to start any procurement activities in the future (within the next 2-3 years).

The first survey was completed by the 8 care delivery and public procurement organisations involved in EURIPHI, namely Fondazione Don Gnocchi (Italy), NHS Foundation Trust (England - UK), AReSS (Puglia

⁶ For more information on the methodology applied to the surveys, please, refer to Deliverables D3.1 and D3.3.

– Italy), Fundació Parc Taulí (Catalunya – Spain), NHS Wales (Wales - UK), Region Southern Denmark, AQuAS (Catalunya – Spain), UniHa (France) and RESAH (France)

A second survey was circulated across care delivery organisations in Europe beyond the EURIPHI consortium. This was done to collect a broader view on demands for innovative solutions in the area of integrated care. The survey included the 13 ICPOs that were prioritised by the EURIPHI regions as a result of the first survey. Results of the second survey have been reported in D3.3. The organisations taking part in the second survey are Galician Regional Ministry of Health – SERGAS (Galicia); The Capital Region of Denmark, Corporate Procurement; University Hospital Olomouc (Czech Republic); Trentino Reference Site (Italy) and Federico II University Hospital of Naples (Italy).

Except for France, where the procurement of innovations in the health sector is mainly performed at the central level by two main Public Procurement Organisations – RESAH and UniHa, both partners of EURIPHI – the regions hosting the care delivery and public procurement organisations that responded to the surveys are considered ready for implementing Value-Based PPI in integrated care. All of them are listed in Table 3.

Table 2 Regions positively assessed for Value-Based PPI readiness for integrated care

Country	Region
Czech Republic	Olomouc
Denmark	Capital Region Region Southern Denmark
Italy	Campania Lombardy Puglia Trentino Alto Adige
Spain	Catalunya Galicia
UK	England Wales

Further information on the level of readiness to apply Value-Based Procurement in integrated care is provided by a publication – which is not released yet – where the author provides the procurement demands and the value propositions related to innovative solutions for a set of integrated care cases, guided by the value-based procurement framework. For each integrated care case it is specified the corresponding geographical area.

We considered for the scope of this deliverable the integrated care cases closer to the 3 Integrated Care Procurement Objectives (ICPOs) identified in the framework of the EURIPHI WP3 activity.

These are:

- ICPO 1: Integrated risk assessment tools for stroke, dementia and multimorbidity;
- ICPO 2: Integrated solutions to support information sharing and real time communication for multimorbidity, aortic stenosis and cross-cutting conditions;
- ICPO 3: Integrated monitoring solutions for people living with complex needs due to stroke, multimorbidity and COPD.

The table below (Table 4) clusters the geographical areas applying value-based procurement to integrated care cases closer to the Integrated Care Procurement Objectives (ICPOs) identified in WP3, merging the results of Deliverables D3.1 & D3.1 and the abovementioned report.

Table 3 European regions apply value-based procurement to integrated care cases closer to ICPOs identified in WP3.

ICPO 1	ICPO 2	ICPO 3
Catalunya (Spain)	Campania (Italy) Catalunya (Spain) Lazio (Italy) Tuscany (Italy)	Basque Country (Spain) Catalunya (Spain) Calabria (Italy) Lazio (Italy) Veneto (Italy)

The exercise performed to assess the readiness of regions (and local authorities) for Value-Based PPI, paved the way to put in place a strategy to target prospects for the EURIPHI Health & Social Care Regions Network. Among the regions listed in tables 2, 3 and 4, the ones that join or expressed interest towards the Network are: Capital Region of Denmark, Region Southern Denmark; Puglia (Italy); Buskerud (Norway); Basque Country, Catalunya and Galicia (Spain); Ostergötland and Skane (Sweden); England, Scotland and Wales (UK). Flanders accepted to join in quality of observer.

3.2 Identification and prioritisation of unmet needs

The process of identification and prioritisation of unmet needs started with the recognition of policy areas where innovation is needed to respond to health systems challenges.

Such policy areas - defined in this deliverable as overarching priority areas - have been targeted in the [TO-REACH Strategic Research Agenda](#) - a tool developed in the framework of the [TO-REACH](#) EU funded project (GA n° 733274) - aiming to address the increasing challenges faced by health systems, directed to those research areas of major relevance in the coming years. EURIPHI partners complemented this information by sharing information on initiatives put in place in these overarching priority areas.

Once the context was set, the exercise of identification and prioritisation of unmet needs continued in the areas of integrated care and rapid diagnostics for infectious diseases – which are key for EURIPHI purposes.

For the integrated care area, the main source of information was the research conducted in the framework of EURIPHI WP3. Information on rapid diagnostics for infectious diseases were collected via a desk-top research and a survey. WP4 results have been considered as well.

The sections below clarify what are overarching priority areas where innovation is needed to respond to current health systems challenges as well as what are the unmet needs in integrated care and rapid diagnostics for infectious diseases.

Overarching priority areas

For the identification of unmet needs, we considered the [TO-REACH Strategic Research Agenda](#), underlining ten overarching priority areas. These have been clustered into three themes – overall design principles, sector-specific priorities and supporting conditions – as follows:

Overall design principles

1. Health systems need to be organised as person and population-centred care, with ample attention to individual and population needs;
2. A change towards integrating services across health sectors and traditional health system boundaries is required.

Sector specific priorities

3. Long-term care requires to be developed to meet future demand;
4. Hospitals will experience new roles, tasks and organisational structures;
5. Integrated services require a strong primary care focus;
6. Mental health services need to be reinforced.

Supporting conditions

7. Adequate numbers, skill-mix, roles and tasks of health care professionals;
8. Adequate and people-centred ICT;
9. Attention for quality improvement and how to measure it;
10. Improvement in governance and financing.

For each of the priority areas listed above, strategic needs and research topics to be addressed have been specified.

Some of the EURIPHI partners (AReSS and InnovaPuglia – on behalf of Apulia Region – and Fondazione Don Gnocchi - FDG) provided their input on policies/initiatives implemented by their own institution to respond to unmet needs in those priority areas. More detailed information is enclosed in ANNEX II.

Integrated care areas

The identification and prioritisation of unmet needs in integrated care areas have been conducted in the framework of WP 3 and more precisely in the D3.1⁷ and D3.3⁸.

The journey to select the prioritised ICPOs in Europe commenced with a systematic desk-top research exercise with the aim to identify existing care delivery shortcomings across care delivery pathways for the following topics:

- Stroke
- Dementia
- COPD
- Multimorbidity
- (Valve) Aortic Stenosis.

In addition to the desk-top research exercise, the selection of topics was guided by discussions held during the project's kick-off and subsequent meetings where the partners' priorities to seek innovative solutions to better support their populations living with health and/or social care needs.

Care delivery shortcomings were then analysed and translated into Integrated Care Procurement Objectives (ICPOs). Altogether, 37 ICPOs were elicited and defined. Each ICPO describes what an innovative solution would need to deliver in order to address one or more care delivery shortcoming(s) identified. This was followed by a survey addressed to collect feedback from the PPOs and care delivery organisations involved in EURIPHI. The purpose was aimed to understand their priorities in relation to the ICPOs as well as to identify any innovative solutions already implemented to address the ICPOs.

Survey results revealed a reduction to a shorter list of 13 priority ICPOs. These again were subject to a survey addressed to regions, PPOs and care delivery organisations across Europe in order to collect a broader view on demands for innovative solutions in the area of integrated care.

⁷ EURIPHI Health Regions Survey Integrated care. Paragraph 2 'Analysis of care delivery shortcomings and definition of initial list of procurement objectives'. Paragraph 3 'Prioritisation of Procurement Objectives by the EURIPHI Regions and PPOs'.

⁸ Draft of innovative solution requirement objectives for selected procurement demands. Paragraph 3 'Selected Integrated Care Procurement Objectives'.

With the combination of the first and second survey, the list shortened to 6 priority ICPOs that were included in a consultation with the EURIPHI Advisory Board members with expertise and interest in integrated care. Finally, the ICPOs were reduced to 3 and formed the basis for the Open Market Consultation (OMC) on innovative solutions for integrated care (WP5). The OMC did not end in a real purchase but paved the way on a learning process on how to apply MEAT Value Based Procurement Framework to PPI.

After the OMC on innovative solutions for integrated care, partners agreed to focus on 3 ICPOs for specific topics and more precisely:

- ICPO1, Integrated risk assessment tools for stroke;
- ICPO2, Integrated solutions to support information sharing for multimorbidity;
- ICPO3, Integrated (remote) monitoring solutions for people living with complex needs (multimorbidity).

Rapid diagnostics for infectious diseases

The identification and prioritisation of unmet needs for rapid diagnostics for infectious diseases relies on multiple sources.

Firstly, a desk-top research on the European Observatory on Health Systems and Policies – Health Systems and Policy Monitor HSPM – Sections Public Health and Health Services for Specific Populations, has been performed to clarify what are the policies promoted in Europe to respond to the challenge of infectious diseases. Therefore, this information was complemented by an overview of European Member States availability to implement guidelines and/or use diagnostic testing for infectious diseases. The mapping exercise was enriched by the results of a survey circulated to EURIPHI partners' regional representatives. Finally, information on hospital acquired lower respiratory tract infections, such as Ventilator Associated Pneumonia (VAP) – obtained in the framework of EURIPHI WP4 - served as an example of how the demand side from a clinical perspective can be matched with the currently available innovative diagnostics.

According to the results of the desk-top research conducted, infectious diseases policies are included mostly in national policy makers' agenda, being *prevention* part of public health, which – in general - falls under responsibility of Ministries of Health. Regions and/or local authorities are responsible for implementing health promotion and prevention programmes, including for infectious diseases. The research

Differences occur on how responsibilities are split between central and regional/local health authorities in European Member States. Therefore, the institutions involved in responding to infectious diseases challenges vary from country to country. What it has been noticed is that compulsory vaccinations – especially for some population's segments – are the broadest initiatives adopted to face such challenges. The **prioritisation** of infectious diseases type(s) – for which initiatives are put in place - varies according to the country. Information in this regard is not always available and data on investments to fund such initiatives is scarce and/or scattered.

The desk-top research on rapid diagnostics for infectious diseases performed on the European Observatory on Health Systems and Policies website revealed also that Anti-Microbial Resistance (AMR) seems to be a priority area for public health policies promoted in Europe. According to the results of a research⁹ performed by the European Observatory on Health Systems and Policies *'the need for new antimicrobials has become increasingly urgent with the rise of antibiotic resistant infections. However, the financial returns for pharmaceutical firms to invest in new antibiotic therapies are, in many cases, low. The development of accurate POC diagnostics has the potential to revolutionize the development of antibiotics*

⁹ *Ensuring innovation in diagnostics for bacterial infection - Implications for policy*. Observatory Studies Series, No. 44. Editors: Chantal Morel, Lindsay McClure, Suzanne Edwards, Victoria Goodfellow, Dale Sandberg, Joseph Thomas, and Elias Mossialos. Publication year:2016.

by allowing firms to better target patients for trials and thereby lower development costs, and to better delineate target patient populations¹⁰. Moreover, 'while the amount of robust evidence supporting the use of rapid POC diagnostics to guide antibiotic treatment is limited, there are reasons to assume that much could be gained from encouraging the development of well-designed, fast and well-adapted diagnostic technologies at patient bedside. However, the fragmentation of demand and challenges in interpreting it leave a critical void that can for the most part only be filled by public intervention¹¹.

Rapid diagnostics demand 'may not be expressed due to a multitude of factors. First, health care is typically provided within a complex organizational structure that influences demand. For example, the governance arrangements for deciding to adopt a new POC diagnostic often include many players¹²'.

A factor enabling to face demand-driven challenges is early-engagement of players involved, which could support the '*prioritization of the development of new tests [...]. Engagement can also facilitate an understanding of how a new test will change existing care pathways and how it will change resource utilization – for example whether it could enable disinvestment in existing processes. As clinical needs and barriers to using a test vary depending on the clinical setting as well as contextual factors, such as the availability of pathology services, the approach to engagement needs to reflect this heterogeneity*'. Xx

While innovations provide timely and personalised information guiding the care management, health systems have not fully exploited their potential yet. Incentives to enable value-based health care – where the value of information is seen as an integral part of the value-driven system – are often not in place.

The European Centre for Disease Prevention and Control (ECDC) mapped the European Member States availability of national primary diagnostic and screening testing guidelines (e.g. who to test, how to test, and when to test) as well as of testing practices. The adoption of national guidelines and testing practices is a prerequisite to guarantee/to monitor sensitivity for/of case ascertainment and surveillance/threat notification systems. However, guidelines are often lacking adherence with daily practice, as health systems are often organised in silos rather than applying an integrated care approach. The results of this exercise have been used as an overview of countries' availability to **prioritise rapid diagnostics** to respond to infectious diseases.

¹⁰ *Ibidem*, pag. 209.

¹¹ *Ibidem*, pag. 235.

¹² *Ibidem*, pag. 145.

Figure 1 Diagnostic testing guidelines

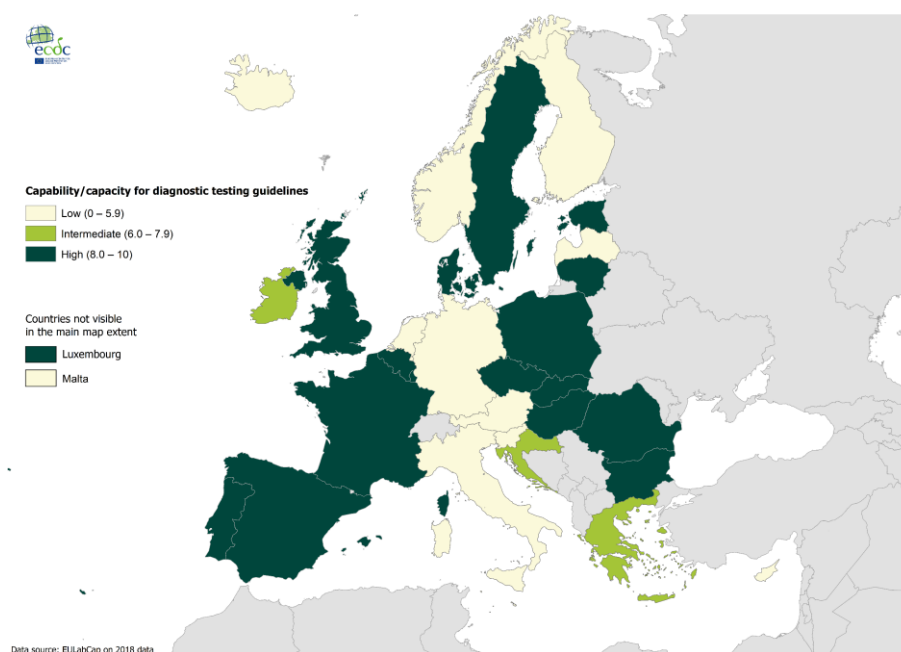
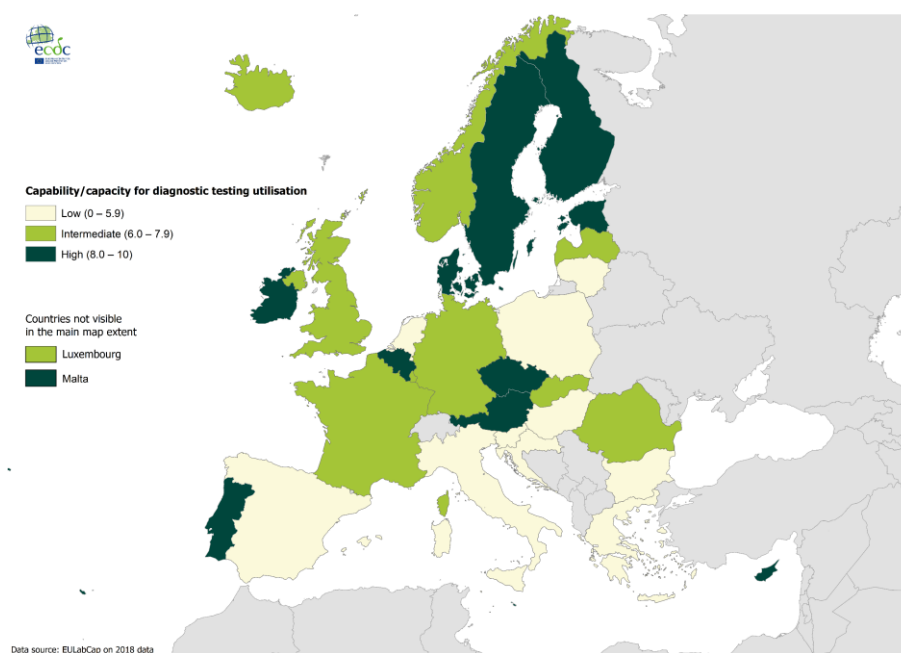


Figure 2 Diagnostic testing utilisation



As anticipated at the beginning of this section, the [EURIPHI survey](#)¹³ clarified what are the areas highest in decision makers' agenda in the field of bacterial, fungal and viral infectious diseases. More precisely, its aim was to explore countries and regions' interest to use rapid diagnostics to face infectious diseases' unmet needs. Feedback helped to understand whether these priorities are for ICUs (Intensive Care Units) and/or hospitals and/or community care settings. Willingness to invest in innovative rapid

¹³ <https://www.surveymonkey.com/r/33JX7H2>

diagnostics in the care pathway by Governments and regional/local health authorities was explored as well.

The survey was shared with EURIPHI WP1 partners and Advisory Board; members of EURIPHI Health & Social Care Regions Network and regional representatives interested to join.

The platform used to create the survey was Survey Monkey. Few feedbacks have been collected, providing -however – an initial indication of regions/countries engagement. The survey results are reported in ANNEX III.

The survey results revealed that the 80% of respondents declared that health authorities in their country/region put in place mechanisms of identification of unmet needs for infectious diseases while this percentage raised up to 100% for prioritisation of unmet needs for infectious diseases. The health authorities participating in the survey are based in Croatia (City of Zagreb), Germany, Italy (Piedmont) and Spain (Catalunya, Canary Island). One-third (33%) of respondents confirmed that identification and prioritisation mechanisms are available for bacterial infectious diseases while two-third (66%) declared that such mechanisms apply to viral infectious diseases. Fungal infectious diseases were not indicated by the respondents in any way.

Information collected via the survey complements available information on COVID-19, which is the viral infectious disease where the focus of policy makers is.

The bacterial infectious diseases indicated are Tuberculosis, E. Coli, MRSA, C. Difficile, K. Pneumoniae. ICU, nosocomial and sexual transmitted infectious have been indicated as well. The viral infectious disease indicated by half of respondents was COVID-19. Nosocomial viral infections were indicated as well.

For the most relevant type of infections and disease areas indicated in the previous responses, the 83% refers respectively to ICUs and hospitals while the 33% refers to community care settings.

Infectious diseases at hospital level have a direct impact on the health care provision. At the primary care level, infectious diseases management is critical to ensure prevention and stewardship. EU plays a relevant role in this, as well as projects such as Value-Dx and future EU PPIs.

The responsible institution for the identification and prioritisation of infectious diseases varies according to the country/region of origins of the respondent. In Croatia and Germany such institutions are Government Authority; in Spain are Regional or local authorities; in Italy are Government and Regional authorities.

Five out of six respondents declared that investments to introduce innovative rapid diagnostics for infectious diseases are available in their countries, while no investments are available according to one out of six respondents. The amount of such investments was indicated only by one respondent, corresponding to 40 million euros for R&I funds. One respondent indicated that the responsible institution for such investments is at the federal level. It has been indicated also that usually investments are introduced through hospitals budget.

For EURIPHI purposes, the analysis of unmet needs focused on hospital-acquired lower respiratory tract infections, such as Ventilator Associated Pneumonia (VAP). This choice is supported by the fact that VAP patients' management has a very high impact on ICUs. The analysis was performed in the framework of WP4 – led by University of Antwerp - and reported in deliverables D4.2. VAP served as an example of how the demand side from a clinical perspective can be matched with the currently available innovative diagnostics.

The process for identification and prioritisation of unmet needs started with the analysis of online available VAP guidelines and comparison of VAP diagnostic parameters and treatment options. Consequently, the VAP clinical scoring systems was reviewed. Then, the clinical decision trees for VAP - based on these guidelines – was defined.

The University of Antwerp developed a questionnaire¹⁴ to identify the technical specifications needed for a rapid diagnostic test for microbiological detection of pathogens causing VAP. The target audience for this questionnaire included seven renowned VAP experts¹⁵ proposed by the European Respiratory Society (ERS).

Two algorithms were considered and scored by these experts. The first algorithm focused on antibiotic stewardship of VAP by early detection of the presence of pathogens and their antibiotic resistance/susceptibility patterns. Such early detection allows to alter treatment or de-escalation strategies and can thus impact on mortality, morbidity, the length of stay, overall costs and the development of antibiotic resistance. The second algorithm considered a diagnostic test that would allow prevention strategies, reduce pathogen transmission rates and prevent development of VAP.

The University of Antwerp identified the technical specifications of the diagnostic test by analysing the questionnaire results. Such results allowed bridging technical specification to value, by allocating weight factors to the various value associated outcomes and the underlying technical specifications. The goal of this questionnaire was to define (i) the importance of the technical specifications, and (ii) the ideal and minimum acceptable product specifications for rapid diagnostic tests that might fit the two algorithms. The technical specifications were split according to the different outcomes and levels.

Stewardship pathway

Based on the descriptive analyses, for the stewardship pathway the technical specifications at the **patient level** were scored as the most important. These are: *time to result*, *sensitivity*, *specificity*, *list of pathogens and resistance genes*, *type of sample* and the *culture method of the sample*. Also, the *reduction of prescribing & selective pressure* (**global level**) and the *reproducibility & positive predicted value* (**device level**) were considered important. On the other hand, the *costs* (**hospital level**) were scored as less important, of which the *waste* and *footprint* were the least important¹⁶.

Detection of colonisation pathway

When comparing the importance of the specification between the two pathways, the detection of colonisation was scored with lower importance compared to the stewardship pathway.

For the detection of colonisation, the focus was on the **hospital level** technical specifications, having five specs in the top ten of importance. The *cost of the test*, *identification of pathogens*, the *cost of the device*, *LIS connection*, were receiving the highest scores. Also, the *reproducibility*, *CE labelling* and *actionable thresholds*, (**device level**), were scored as high. Finally, the *sensitivity* and *identification of disease* (**patient level**) were also in the top ten of importance¹⁷.

The exercise of definition of functionalities and technical requirements was performed for a solution on rapid diagnostic for antibiotic stewardship for VAP, as the stewardship pathway specifications were scored with higher importance compared to detection of colonisation.

Two Open Market Consultations (OMCs) were performed on this topic. The first took place in Paris in May 2019, engaging three interested companies. The second one, was executed online in January 2020 (the related PIN was issued on TED platform in November 2019) to gather further feedback from the

¹⁴ Detailed information on the questionnaire is reported in Annex to Deliverable D4.2.

¹⁵ Prof. Loeches, Prof. Torres, Prof. Chastre, Prof. Monreal, Prof. Welte, Prof. Timsit and Prof. Shyamsundar.

¹⁶ For a more accurate description of the seven higher rated technical specification at the patient level, please, read Deliverable D4.2, par. 3 Results and Analysis, pag. 12-16.

¹⁷ Ibidem, pag. 17.

industry on the desired solution. In the second OMC, the EURIPHI consortium decided to broaden the scope from *rapid diagnostics* to *rapid diagnosis* which in turn corresponded to a largest response on the Industry side. Seven

companies showed interested, enabling EURIPHI to understand what is available on the market and what is the current state of the art on rapid diagnosis tools for antibiotic stewardship of VAP.

3.3 Reflection paper on common vision on cross-border VB PPI

In addition to the understanding of unmet needs, one of the results achieved was to elaborate a shared view on cross-border Value-Based PPI, which contributes to WP2 and WP5 results. The shared view considers the EURIPHI partners, EURIPHI VB CoP members and Health & Social Care Regions Network point of view, as regards the best way to cooperate to respond to common needs. More specifically, it feeds Task 2.2 - by contributing to the definition of initial criteria to apply when procuring innovative solutions for integrated care and rapid diagnosis identified respectively in WP3 and WP4 – and deliverable D5.1 Prioritisation and Test Case Learnings.

The shared view on cross-border PPI is mirrored in the proposition of the *EURIPHI cross-border value-based procurement model*, which is a tool to optimise cooperation across the borders while maintaining a localised decision making. The EURIPHI cross-border value-based procurement model takes into consideration the experience of the stakeholders represented in the EURIPHI consortium and Advisory Board, including health regional representatives, PPOs, industry, academia, health care providers.

The *EURIPHI cross-border value-based procurement model* could be resumed as follows. Cross-border collaboration represents an opportunity to support efficient and effective public procurement, however circumstances on both the supply and demand side requires a well-defined model of cooperation throughout the entire procurement and tendering process. The adoption of a value-based approach – instead of volume-price joint contracting – is critical to respond to specific unmet needs. The advancement of a joint-procurement model ensuring localised decision making was considered an enabler for cross-border cooperation.

Furthermore, health systems differences have to be taken into consideration. While performing the activities forecasted by the project, EURIPHI partners - supported by the Advisory Members and the EURIPHI Health & Social Care Regions Network have identified to what point(s) in the procurement process it is appropriate to closely cooperate and the modalities to safeguard local decision making thereafter.

Collaboration in the pre-tender phase is perceived a priority and provides the basis for the subsequent execution of the tender phase. The modality on how to collaborate depends on the procurement procedure agreed between the parties¹⁸. The tender phase comprises the actual execution of the tender process and, in order to safeguard local decision making and to manage local refinements, three applicable modalities under EU public procurement Directive, transposed into national law have been identified:

- Pre-tender collaboration, subsequent issue of individual tenders;
- Given full pre-tender collaboration, subsequent issue of a joint tender having individual lots to be awarded by each participating party;
- Given full pre-tender collaboration, subsequent issue of a joint tender resulting in the awarding of a framework agreement to be implemented locally using specific contracts (call-offs) by each participating party.

Full collaboration in the pre-tender phase and applying one out of three cross-border collaborative procurement models safeguarding local decision making, will have positive consequences on quality of care and will result in the most economic advantageous tendering form the procurement perspective.

¹⁸ More information on collaborating across the border is included in the Deliverable D5.1.

The process to elaborate a shared view on cross-border PPI consisted of several steps, including analysis of literature, collection of feedback provided by innovation procurement experts in the EURIPHI consortium and Advisory Board members as well as health regional authorities' representatives who were targeted for the EURIPHI Health & Social Care Regions Network. As mentioned in paragraph 2 of this report, the reflection of regions on common vision on the cross-border was improved with the involvement of the EURIPHI Health & Social Care Regions Network and the outcomes of the EURIPHI Health & Social Care Regions Network discussion held on 12 December 2019 and the EURIPHI International Roundtable held on 10 March 2020.

According to the results emerged in Joint Public Procurement and Innovation. Lessons Across Borders (1st edition 2019. Gabriella Margherita Racca, Christopher Yukins), innovation in public procurement is essential for sustainable and inclusive growth in an increasingly globalised economy. The same results highlight benefits and costs of spurring innovation through procurement in US and Europe. The same research suggests to considering risks and opportunities of joint procurement across the border when it comes of assessing the potential of innovation.

After having analysed the literature, there was a discussion about cross-border joint procurement of innovation with experts in the field in order to collect from them their feedback on concrete application of this concept. Prof. Gabriella Racca - Full Professor of Administrative Law at Turin University and member of the EURIPHI Advisory Board – suggested that cross-border joint procurement revealed recognised barriers into practice. Joint awarding of contracts by contracting entities from different Member States currently encounters specific legal difficulties, with special reference to conflicts of national laws. In practice several national legal systems have explicitly or implicitly rendered cross-border joint procurement legally uncertain. This is also supported by evidences emerged by the [HAPPI EU-funded project](#) (falling under FP7 EU funding programme). Therefore, new rules on cross-border joint procurement designating the applicable law should be established in order to facilitate cooperation between contracting entities across single market, while specific rules should be established for such forms of cooperation in procurement.

Yet, experiences on cross-border joint procurement of innovation collected from EURIPHI PPOs suggested that localised decision making is critical to take into consideration to comply with the differences in health care management in Europe. The EURIPHI Health & Social Care Regions Network discussion held on 12 December 2019 (minutes in Annex IV) highlighted the relevance of this approach and supported it.

Once finalised, the *EURIPHI cross-border value-based procurement model with localised decision making* was presented during the EURIPHI International Roundtable, held in Brussels on 10 March 2020. The event aimed at stimulating the debate on how to facilitate the cross-border cooperation and to define the most efficient and effective cooperation along the tender process, while maintaining a localised decision making. Further outcomes of the event could be found in ANNEX V.

3.4 List of national and regional health authorities' representatives

The health authorities' representatives list creation - including policy makers; people responsible for innovations and/or investments; CFOs and payers committed in value-based care provision – was an exercise performed during the whole duration of the project, which involved the whole consortium. So far, the partners who actively contribute to this activity are: RESAH, EUREGHA, ARESS, Universitat de València (UVEG), Fundació Clínic per a la Recerca Biomèdica (FCRB), the European Hospital and Healthcare Federation (HOPE), and MedTech Europe. Some members of the Advisory Board supported this mapping exercise as well.

RESAH created connections between EURIPHI and InDemand EU funded project - where RESAH is involved as a partner - and provided contacts of representatives of Murcia, Oulu and Paris Region that are regions involved in InDemand pilots.

EUREGHA mapped the interest of its members, 15 regional and local health authorities coming from 10 countries in Europe, to become members of the EURIPHI Regional Network. Value-based healthcare and innovation procurement are, indeed, both priorities stressed by EUREGHA's members in internal documents (eg. Annual Work programme 2019) and external campaigns (eg. position paper Health in all Regions). The opportunity to join the EURIPHI Health & Social Care Regions Network was officially presented at EUREGHA General Assembly on 13 March 2019. Moreover, since the start of the project a continuous dissemination of information via e-mails, calls and bilateral meetings were done (especially with Flanders, Emilia-Romagna, Toscana, Ostergötland, Scotland). The dialogue with the potential regional members, showed the need to diversify the commitment within the network in an active or passive role, according to the level of readiness towards Value Based Health Care (VBHC) and innovation procurement of each single territory. As a result, Scotland, Buskerud, Wales, Catalonia, Östergötland expressed their interest to become member of the network, while Flanders has an observer role.

Besides mapping the interest within its association, EUREGHA targeted also external regions with clear specific interest in this topic. All the 25 members regions of the Medical technologies thematic area within the Smart Specialisation Platform for Industrial Modernisation (S3P-Industry), were invited to join the EURIPHI breakfast meeting on 16 October 2019, to learn about the opportunity to become member of the network. The S3P-Industry aims to support EU regions committed to generate a pipeline of industrial investment projects following a bottom-up approach - implemented through interregional cooperation, cluster participation and industry involvement. In this exercise, tools such Public Procurement of Innovative solutions (PPI) and Pre-Commercial Procurement (PCP) are crucial. It is important to ensure that solutions are valued according to the health authorities' needs. Basque Country, Southern Denmark expressed their interest in joining the network, while Lombardy (lead Region of the Medical Technologies S3 platform Thematic Area) is open to this possibility.

AReSS is ensuring engagement at local level, by liaising with relevant actors in Regional health departments. Moreover, AReSS is supporting the EURIPHI consortium to identify regional representatives in some European network (EHTEL, EuroHealthNet, EIP-AHA, etc.) it takes part of.

UVEG and FCRB collaborated to ensure engagement of Spanish regions in the EURIPHI Health & Social Care Regions Network. UVEG used snowball sampling to identify such regions as well as direct contact with regions with whom it has or had collaborations in projects. Overall, UVEG and FCRB have targeted: Andalusia, Asturias, Basque Country, Community of Madrid and Valencian Community. From these contacts, the Basque Country region has successfully joined the network. On the other hand, the process to join the network has been activated in the Valencian Community, where researchers from UVEG had meetings with policy makers in charge of this section. Asturias has not contacted back yet. UVEG has also activated contacts with the Community of Madrid, which showed its interest in joining the EURIPHI Health & Social Care Regions Network as well. Currently, UVEG and AQUAS are going to follow the same way to approach the regional governments with competences in health and innovation to enlarge the EURIPHI Health & Social Care Regions Network.

HOPE has identified in its membership the organisations with a strong connection to regional and local authorities. These organisations have been informed about the EURIPHI project and Health & Social Care Regions Network through several communication channels, including newsletter and individual emails. The HOPE Members targeted to facilitate the creation of the EURIPHI Health & Social Care Regions Network are Danish Regions (Denmark), Association of Finnish Municipalities (Finland); Department for Health and Social Affairs, Veneto Region (Italy); National Institute of Health Management – INGESA (Spain); Swedish Association of Local Authorities and Regions – SALAR (Sweden); NHS Confederation (United Kingdom).

MedTech Europe - leveraging on several sources, e.g. MEAT Value-Based procurement framework pilots site and EU funded projects with similar scope to EURIPHI - provided input on regions (and one country) advanced on and/or interested in value-based procurement (Capital Region of Denmark, Murcia, Turkey, Tuscany).

Nick Guldemon, who is a member of the EURIPHI Advisory Board explored the interest of regional health representatives towards EURIPHI and its Health & Social Care Regions Network of Saxony, Baden-Wuerttemberg, Hamburg Metropolitan Region, Lombardy and Gdansk Pomeranian District. National authorities were targeted as well: Ministry of Social Affairs of Estonia; Federal Health Authority of Poland; Ministry of Health of Romania; Health National Institute 'Doutor Ricardo Jorge' of Portugal.

In total, 45 people in 32 regions spread in 17 countries have been included in the list. These have been contacted to explore their interest in joining the EURIPHI Health & Social Care Regions Network as well as to take part in EURIPHI promoted initiatives such as the EURIPHI Network Lunch on 12 December, EURIPHI International Roundtable and EURIPHI survey on countries and regions priorities to use rapid diagnosis for infectious disease.

Table 4 resumes the regions indicated by EURIPHI partners and their status in the EURIPHI Health & Social Care Regions Network. Status could be:

- Member: On-board
- Interested: Interest confirmed
- Prospect: To be contacted
- Contacted: Contacted but no follow-up

Table 4

Country	Region	Status
Austria	Lower Austria	Contacted
Belgium	Flanders	Observer
Czech Republic	Olomouc	Prospect
Denmark	Southern Denmark	Member
Denmark	Capital Region	Interested
Estonia	Ministry of Social Affairs	Contacted
Finland	Oulu	Contacted
France	Paris Region	Contacted
Germany	Region of Saxony	Contacted
Germany	Baden - Wuerttemberg	Contacted
Germany	Hamburg Metropolitan Region	Contacted
Italy	Calabria	Prospect
Italy	Campania	Prospect
Italy	Lazio	Prospect
Italy	Lombardy	Contacted
Italy	Puglia	Member
Italy	Trentino Alto Adige	Prospect
Italy	Veneto	Prospect
Norway	Buskerud	Member
Poland	Gdansk Pomeranian District	Contacted
Poland	Federal Health Authority	Contacted
Romania	Ministry of Health	Contacted
Spain	Andalusia	Interested
Spain	Aragon	Prospect
Spain	Asturias	Contacted
Spain	Basque Country	Member
Spain	Canary Island	Prospect
Spain	Catalunia	Member
Spain	Community of Madrid	Interested
Spain	Galicia	Interested
Spain	Murcia	Contacted
Spain	Valencian Community	Interested
United Kingdom	England	Member
United Kingdom	Scotland	Member
United Kingdom	Wales	Member
Turkey	Ministry of Health	Contacted

4. Conclusion

The present deliverable paved the way for understanding what countries and regions are more ready to implement innovation/innovative solutions in health systems by means of PPI/PCP. More precisely, the deliverable gives a good overview of countries and regions willingness to invest in innovation by means of innovation procurement. Moreover, the deliverable clarifies the priority areas where these investments might be addressed to. The assessment of priority areas concerned mainly the context of integrated care, being one of the focus areas of EURIPHI.

Tables 2, 3 and 4 lists respectively regions positively assessed for Value-Based PPI readiness; regions more advanced in using value-based procurement in integrated care in general; regions applying value-based procurement in certain clinical areas (which require integrated care provision).

In parallel, a mapping exercise of countries and regions readiness to identify and prioritise unmet needs has been performed as well. The aim was to investigate what are the population's needs – in integrated care and infectious diseases fields - higher in policy makers' agenda.

Work has been done to develop a common view on regional authorities' opinion on cross-border value-based procurement. Evidence has been collected through literature analysis and experts' feedback on the topic. A key point of discussion was to understand until which point of a tender process performed across the borders was valuable to proceed jointly. Regional authorities showed interest in conducting jointly the pre-tender phase, while the purchasing decision-making process and contracting shall be localised. The reflection of regional authorities on cross-border value-based procurement is mirrored in *the EURIPHI cross-border value-based procurement model*, which is a tool to optimise cooperation across the borders while maintaining a localised decision making.

5. Annexes

Annex I

Countries performance on innovation procurement. Source: PwC report “Comparative analysis of results from benchmarking national policy framework for innovation procurement”.

Country	Health care and social services		Action plan		Spending target		Incentives		Capacity building and assistance measures		Innovation friendly public procurement market		Total
Finland	100%	1,0	81%	0,81	70%	0,7	67,80%	0,68	63%	0,63	67%	0,67	4,49
Austria	100%	1,0	64%	0,64			71,40%	0,71	65%	0,65	53%	0,53	3,53
Spain	100%	1,0					78,60%	0,79	31%	0,31	63%	0,63	2,73
France	50%	0,5	50%	0,50	50%	0,5			31%	0,31	72%	0,72	2,53
Norway	100%	1,0					21,40%	0,21	65%	0,65	66%	0,66	2,52
UK	100%	1,0					50%	0,50	35%	0,35	65%	0,65	2,50
Belgium			44%	0,44	60%	0,6	28,60%	0,29	41%	0,41	73%	0,73	2,47
Netherlands			44%	0,44	50%	0,5	21,40%	0,21	57%	0,57	58%	0,58	2,30
Sweden			50%	0,50			42,80%	0,43	81%	0,81	51%	0,51	2,25
Ireland	100%	1,0							6%	0,06	72%	0,72	1,78
Lithuania					50%	0,5	21,40%	0,21	46%	0,46	48%	0,48	1,65
Estonia			50%	0,50			28,60%	0,29	22%	0,22	58%	0,58	1,59
Germany							50%	0,50	61%	0,61	44%	0,44	1,55
Italy					50%	0,5	46,40%	0,46	7%	0,07	50%	0,50	1,53
Slovenia							21,40%	0,21	28%	0,28	83%	0,83	1,32
Denmark			50%	0,50				0,00	19%	0,19	55%	0,55	1,24
Greece			50%	0,50							38%	0,38	0,88
Poland							21,40%	0,21	17%	0,17	48%	0,48	0,86
Hungary									11%	0,11	60%	0,60	0,71
Romania							35,70%	0,36			34%	0,34	0,70
Luxembourg									17%	0,17	51%	0,51	0,68
Czechia							14,30%	0,14			44%	0,44	0,58
Slovakia									11%	0,11	47%	0,47	0,58
Latvia											49%	0,49	0,49
Croatia											47%	0,47	0,47
Bulgaria											46%	0,46	0,46
Portugal											41%	0,41	0,41
Malta											32%	0,32	0,32
Cyprus											31%	0,31	0,31
Switzerland													0,00

Indicators explanation

Sectoral policies: Healthcare and social services

This indicator reflects to what extent innovation procurement is endorsed as a strategic priority in a policy framework or action plan in each of the 10 sectors of public sector activity identified in the EU public procurement directives.

Action plan

This indicator reflects to what extent each country has developed a dedicated action plan that foresees specific measures that are not covered by other horizontal policies or sectoral policies to encourage innovation procurement in a coordinated way across the country.

Spending Target

To achieve an equally innovation friendly public sector as in other regions of the world, there should be 2,5% of R&D procurements and 15-20% of PPIs in Europe (as a percentage of total amount of public procurement). The figures provided show the overall scores of indicator “Spending Target” for each country that has fixed a spending target for innovation procurement.

Incentives

This indicator reflects the progress of using financial or personal demand-side incentives to encourage public procurers to undertake more innovation procurements across different countries. It is calculated as the average of two sub-indicators, namely “financial incentives” and “personal incentives”.

Capacity building and assistance measures

Lack of know-how and experience on innovation procurement is also a significant barrier to innovation procurement. Several countries around Europe have therefore set up measures to build up the know-how of public procurers on innovation procurement and/or to provide tailored case-by-case assistance to public procurers to implement specific innovation procurement projects.

Innovation friendly public procurement market

This indicator reflects to what extent the public procurement market of each country encourages the implementation of innovation procurement on a wide scale and results from the combination of two sub-indicators: (i) the use of specific techniques to foster innovation in public procurement and (ii) the openness of the national procurement market to innovations from across the EU single market.

ANNEX II

EURIPHI partners' experience in identify and prioritise unmet needs: the case of Apulia Region and Fondazione Don Gnocchi (FDG).

Apulia Region

The overarching priority areas mirrored in concrete policies promoted by Apulia Region refer to:

- Health systems organisation as person and population-centred care, with ample attention to individual and population needs;
- Change towards integrating services across health sectors and traditional health system boundaries;
- Strong primary care focus for integrated care;
- Improvement in governance and financing.

As the policies promoted in the priority areas listed above are demand-driven, Apulia Region proceeded in collecting requirements to respond to unmet needs emerged in those areas. More specifically, Apulia Region performed this exercise by focusing on aspects related to the 3 ICPOs reported in the section Integrated Care of paragraph 3.2, and more precisely:

- Valorisation of results of risk-stroke assessment by means of digital technology enabling personalised monitoring and therapeutic recommendation (link to ICPO1, Integrated risk assessment tools for stroke);
- Integrated multi-specialists assistance aimed to support – remotely and by means of virtual rooms – health professionals taking care of patients suffering from co-morbidities and rare diseases (link to ICPO2, Integrated solutions to support information sharing for multimorbidity);
- Patients remote monitoring of patients defined as complex (link to ICPO3, Integrated monitoring solutions for people living with complex needs).

Apulia Region Health system *is organised as person and population-centred care, with ample attention to individual and population needs*. Within this priority area, Apulia Region collected requirements refer to i) the use of big data and deep learning techniques for info and data coming by micro devices and telemedicine instruments; ii) the enrichment of electronic health record for monitoring values detected remotely; iii) the integrated network hospital-territory-domicile and the various professional figures involved (doctors of general medicine, pediatricians of free choice, experienced nurses, doctors and surgeons specialists, pharmacists, sonographers etc.); iv) the treatment of patients with suspected strokes by means of new tele-stroke technology, useful for optimising the door to needle phase (the time between the arrival in the hospital and the start of thrombolytic treatment); v) the support to the diagnosis process also by means of augmented reality able to interact with control rooms and assist for diagnose the event; vi) virtual real time laboratory for specific analyses including but not limited to troponin, arterial blood analysis with *poct* (point of care testing) evaluating the blood using the diagnostic instrumentation and subsequent validation by the networked analysis center.

Apulia Region adopted policies to *integrating services across health sectors and traditional health system boundaries*. Apulia Region is managing care process by i) promoting the territory as the primary center for assistance and governance of health and social-health pathways, ii) reorganising primary care iii) shifting the center of gravity of the health system from the hospital to the territory, v) giving a decisive boost to the development of an organisational model centered on primary care and social-health integration. An e-health care digital transformation – which was promoted to foster such integration - is supported by the involvement of many institutional actors.

Apulia Region is implementing several initiatives by improving its *governance and financing*. Since the previous programming period, the innovation-based policy vision is mobilising investments and guaranteeing the commitment of all actors and local stakeholders in the ongoing transformation process of the entire health and care regional ecosystem. By means of a specific program named

'Apulian Living Labs' many fields¹⁹ of innovative application and co-creation design have been investigated. Apulia Region is applying the same approach favouring the competences and knowledge of Industry and Academia for solution development and scientific validation, fostering the civil society participation as a driving actor in the co-creation process and assuring governance of public innovative demand as Government and health provider is concerned. In the Apulia Region model existing and active actors are mainly referred to Government/Health Provider, Industry, Research & Academia and Civil society.

Fondazione Don Gnocchi (FDG)

Fondazione Don Gnocchi promoted the so called 'Loop of Innovation', a methodology of collaboration between healthcare providers and company, aimed at improving the value of their solutions, to respond to unmet needs by means of technology and innovation consisting of the following steps:

- Scouting/HTA;
- Collaborative procurement;
- Integration;
- Development of data analysis tools;
- Innovation trial;
- Workflow optimisation;
- Sustainability and reimbursement model.

The overarching priority areas where Fondazione Don Gnocchi applied 'Loop of Innovation' are:

- Change towards integrating services across health sectors and traditional health system boundaries;
- New roles, tasks and organisational structures for hospitals.

The innovative solution applied in the priority area '*change towards integrating services across health sectors and traditional health system boundaries*' was the implementation of *Home Telerehabilitation* for elderly people with multimorbidity, multiple sclerosis, stroke, orthopedic patients. The unmet needs identified were:

- Early discharge of patient and continuity of care;
- Outreach of higher number of patients and decrease of hospital waiting lists;
- Optimisation of resources;
- Objective and quantitative measurement of the treatment outcome;
- Motor and cognitive stimulation;
- Improvement of patient compliance, motivation and involvement;
- Continuity of bilateral contact between patient and therapist (through audio-video connection).

The 'Loop of Innovation' for *Home Rehabilitation* was deployed as follows. A HTA telerehabilitation group has been setup, including experts from technology, research, clinical practice and management: Five telerehabilitation solutions have been analysed and a consensus has been reached on evaluation parameters, including CE-MED certification, costs, usability, sci-clin literature (scouting/HTA).

Two vendors and a platform company have been individuated, providing the exercises software platform and the audio-video communication platform. A draft partnership agreement has been prepared, including vendor availability to optimise platforms' intelligence and connectivity, based on comments provided (collaborative procurement).

An intensive software integration and debugging activity has been done (Integration). A tool to retrieve big data from the home kits (and from other sources in hospital, like rehab robots) has been

¹⁹ Health prescription adherence; active and healthy ageing; personalised medicine and functional decline; integrated care model development; independent living solutions and smart cities environment.

programmed, allowing the creation of a cloud-based rehab databank, potentially with appropriateness predictive value (to save money and time and to improve patient's quality of life) (development of data analysis tools).

A tele-rehab protocol has been setup by the clinical group (consensus) and a six-months pilot has been done in Fondazione Don Gnocchi champion centres. Objectives of tests in safe environment are reliability of the technologies identified, usability for the patients, usability for the therapists, level of engagement and compliance of patients, possible improvements for a future release (innovation trials).

A protocol and a workflow have been agreed with public payors, and a test on field has been performed (workflow optimisation). A cost model has been produced, based on home rehab usual care protocols, cost of the technology, impact on health organization, taking into account current reimbursement for home rehabilitation. The possibility of delivering remote rehab sessions, and the corresponding reimbursement policies, has been achieved through a negotiation with regional health authorities (sustainability and reimbursement model).

The innovative solution applied in the priority area '*reinforcement of mental health services*' was addressed to people with Mild Cognitive Impairment (MCI) or Mild Dementia, developed in the framework of the H2020 EU funded DECI project²⁰. The unmet needs identified are:

- Monitoring patient behaviour and mood to timely assess changes in patient conditions that would require social care support;
- Monitoring overall clinical condition;
- Providing cognitive stimulation and cognitive training at home;
- Improving diagnosis method;
- Providing tools to support treatment planning and information sharing and coordination of care among the clinical team;
- Standardising care pathways;
- Measuring adherence and compliance to treatment plans;
- Providing access to non-pharmacological therapies.

The 'Loop of Innovation' methodology started with an analysis of the different technological solutions for assisting older adults with MCI. The main functionalities, technological readiness and context were analysed and compared to the unmet needs detected (scouting/HTA).

Some of the solutions identified in the previous step were made available as prototype by the project partners, others were acquired on the market (collaborative procurement).

The different technological solutions were integrated into a common platform (the DECI platform) able to provide services for the different stakeholders involved in the care and assistance of people with MCI and Dementia (integration).

A tool for data analysis has been developed within the project.

A specific model for the introduction of the DECI platform into the usual clinical practice has been developed (workflow optimization).

A testing protocol and a workflow have been created and the DECI platform has been validated in four pilot sites by involving a group of 138 patients with MCI or Dementia (innovation trial).

²⁰ <http://deci-europe.eu/deciproject/>

A business case has been created for the introduction of the technologies implemented during the DECI project into the homecare pathways of the clinical partners of the DECI project. The business case also included a long-term sustainability analysis (sustainability and reimbursement model).

For the priority area '*new roles, tasks and organisational structures for hospitals*', Fondazione Don Gnocchi implemented a large-scale rehabilitation robotics for multiple sclerosis, stroke, orthopedics patients.

The unmet needs identified were:

- Optimisation of resources (simultaneous treatment of several patients with one supervising therapist);
- Objective and quantitative measurement of the treatment progress and outcome;
- Additional cognitive stimulation component in the exercises;
- Improvement of patient compliance, motivation and involvement
- Enablement of real value-based healthcare
- Introduction of more accurate data for evaluating patient movement (robots record the movement data such as the position, velocity, and force/torque of joints);
- Introduction of rehabilitation exercise with more variety and possibility to adapt to the patient's individual characteristics;
- Provision of highly specific feedback to patients to support learning;
- Ability to provide repetitive high-quality movements, allowing increased intensity of rehabilitation;
- Large variety of exercises for the therapist to choose from.

The 'Loop of Innovation' steps are described as follows.

Innovation access in healthcare systems (we followed the steps of the "Loop of Innovation"):

An HTA rehab-based robotics group has been setup, including experts from technology, research, clinical practice and management. 16 rehab robots have been analysed, brought from the group components and their network. A consensus has been reached on evaluation form, that has been filled-in for each solution by several independent evaluators in the group. Finally, an algorithm has been setup to calculate the ranking of the robots, based on the average of evaluators' forms (scouting/HTA).

A complete set of the four robots has been bought, from two vendors. A partnership agreement has been signed, including vendor availability to optimize robot intelligence, based on our comments (collaborative procurement).

The robots have been connected to FDG network in order to be able to collect their data into a centralised database (integration).

A tool to retrieve big data from all the installed robots has been developed, allowing the creation of a cloud-based rehab databank, potentially with appropriateness predictive value (development of data analysis tools).

A champion FDG centre has been selected, with the goal to pre-evaluate the efficacy of the robotic solutions and serve as interface. A robotic rehab protocol has been setup by the clinical group (consensus) and a 6-months pilot has been performed. After the successful pilot, eight additional centres have been equipped with the same set of four robots, and the personnel has been trained to protocols, in order to conduct a multicentric study to prove, on a large scale, the clinical efficacy and efficiency of the robotic rehab (innovation trial).

A 'virtual coordinator' tool computing optimal shifts and patient calendars has been produced and tested by clinicians (workflow optimization).

Robotic rehabilitation is reimbursed in all the Italian regions; in some of them a specific higher reimbursement is recognised. A modelling of the patient's journey to/from robots has been done, leading to a Monte Carlo simulation able to predict the best configuration to integrate robots in the hospital workflow (sustainability and reimbursement model).

Annex III

Results of EURIPHI survey on countries and regions priorities to use rapid diagnosis for infectious disease.

The survey can be found at the following [link](#).

Methodology

The survey was developed by MedTech Europe, being the leader of WP1, to complement the information related to unmet needs identification at the regional level in the field of infectious diseases. The platform used to create the survey was Survey Monkey. Once finalised, the survey link was shared with EURIPHI WP1 partners and Advisory Board; members of EURIPHI Health & Social Care Regions Network and representatives of regional representatives interested to join the Network, previously targeted as described in paragraph 3.1 and 3.4 of the present deliverable. Overall, the survey link was sent to about 75 contacts. Six feedbacks have been collected in total, providing -however – an initial indication of regions/countries engagement to respond to infectious diseases unmet needs. Aggregated results are reported here below.

Template

EURIPHI survey on countries and regions priorities to use rapid diagnosis for infectious disease

The objective of this survey is to clarify what are the areas highest in decision makers' agenda in the field of bacterial, fungal and viral infectious diseases.

Information collected will be used in the framework of the [EURIPHI EU H2020 project](#) (GA n° 825922). Its aim is introducing innovative solutions using rapid diagnostics in care delivery by means of cross-border value-based innovation procurement.

Feedback will be used to know more about the interest of countries and regions to identify and prioritise unmet needs in the field of infectious diseases and to use innovative rapid diagnostics to face these unmet needs.

Therefore, feedback will help to understand whether these priorities are for ICUs (Intensive Care Units) and/or hospitals and/or community care settings.

Willingness to invest in innovative rapid diagnostics in the care pathway by Governments and regional/local health authorities will be explored as well.

With the information gathered, the EURIPHI consortium will:

- Develop an overview of identification and prioritisation of unmet needs in the field of innovative rapid diagnostics for infectious diseases in Europe;
- Update the Deliverable D1.1 '*Mapping of Health Regions readiness for value-based PPI and mechanisms of identification of unmet health and health systems' needs. Reflection paper of common vision on cross-border value-based PPI. Overview list of national-regional health authorities' representatives for EURIPHI. Identification of current process of identification of unmet need*';
- Identify the countries/regions willingness to co-invest in the field of innovative rapid diagnostics.

1. Do health authorities in your country/region put in place mechanisms of identification of unmet needs for infectious diseases?

☐ Yes

☐ No

2. Do health authorities in your country/region put in place mechanisms of prioritisation of unmet needs for infectious diseases?

☐ Yes

☐ No

3. Please, indicate the name of country and region you are referring to.

4. If yes, for which infectious diseases?

☐ Bacterial

☐ Fungal

☐ Viral

5. Could you, please, prioritise and list the name of bacterial disease(s) for which such identification mechanisms are in place?

6. Could you, please, prioritise and list the name of fungal disease(s) for which such identification mechanisms are in place?

7. Could you, please, prioritise and list the name of viral disease(s) for which such identification mechanisms are in place?

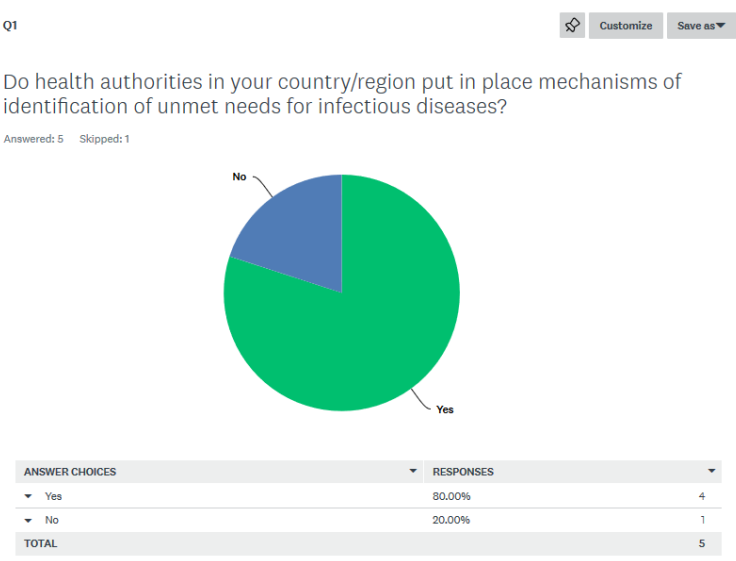
8. For the most relevant type of infections and disease area(s) identified in the previous response, please, indicate the care setting(s) they refer to. Please, use ICUs for Intensive Care Units, H for hospitals and CC for community care (e.g. bacterial infectious for respiratory diseases in ICUs).

9. What is the responsible institution in your country/region for the identification and prioritisation of infectious diseases? Is it a Government and/or regional/local health authority?

10. Are there, in general, investments available to introduce innovative rapid diagnostics for infectious diseases in your country?

11. If yes, what are these investments about? What is their amount? What are the technologies involved?

Results

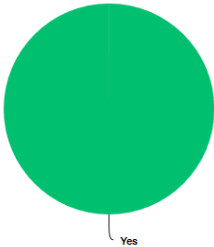


Q2

Customize Save as

Do health authorities in your country/region put in place mechanisms of prioritisation of unmet needs for infectious diseases?

Answered: 6 Skipped: 0



ANSWER CHOICES	RESPONSES
Yes	100.00% 6
No	0.00% 0
TOTAL	6

Q3

Save as

Please, indicate the name of country and region you are referring to.

Answered: 6 Skipped: 0

RESPONSES (6)WORD CLOUDTAGS (0)

Sentiments: OFF

☐ Apply to selectedFilter by tag

Search responses

Showing 6 responses

☐ Croatia, City of Zagreb

4/6/2020 1:21 PM

View respondent's answersAdd tags

☐ Catalonia, Spain

4/3/2020 9:47 PM

View respondent's answersAdd tags

☐ Germany

4/3/2020 6:49 PM

View respondent's answersAdd tags

☐ Italy Piedmont

4/2/2020 2:29 PM

View respondent's answersAdd tags

☐ Spain (Canary Islands)

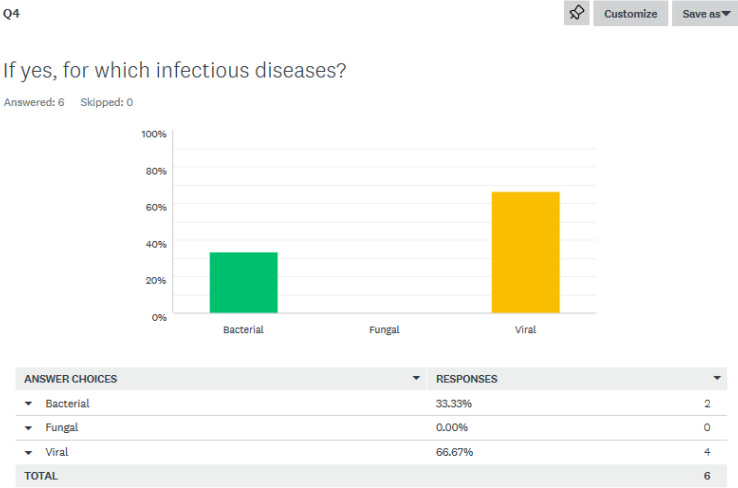
4/2/2020 2:23 PM

View respondent's answersAdd tags

☐ Catalonia (Spain)

4/2/2020 1:52 PM

View respondent's answersAdd tags



Q5

Could you, please, prioritise and list the name of bacterial disease(s) for which such identification mechanisms are in place?

Answered: 6 Skipped: 0

RESPONSES (6) WORD CLOUD TAGS (0) Sentiments: OFF

Apply to selected Filter by tag Search responses

Showing 6 responses

- ☐ Tuberculosis
4/6/2020 1:21 PM View respondent's answers Add tags
- ☐ E. coli MRSA C. difficile K. pneumoniae
4/3/2020 9:47 PM View respondent's answers Add tags
- ☐ There are doctors, clinics, institutes and scientists who/which are specialised.
4/3/2020 6:49 PM View respondent's answers Add tags
- ☐ COVID-19
4/3/2020 6:49 PM View respondent's answers Add tags
- ☐ - ICU infections - Sexual transmitted diseases
4/2/2020 2:23 PM View respondent's answers Add tags
- ☐ COVID 19, and other nosocomial infections
4/2/2020 1:52 PM View respondent's answers Add tags

Q6

Save as ▼

Could you, please, prioritise and list the name of fungal disease(s) for which such identification mechanisms are in place?

Answered: 5 Skipped: 1

RESPONSES (5) **WORD CLOUD** **TAGS (0)** 🔒 Sentiments: OFF

☐ Apply to selected ▼ Filter by tag ▼ 🔍

Showing 5 responses

<input type="checkbox"/> /	4/3/2020 9:47 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> There are doctors, clinics, institutes and scientists who/which are specialised.	4/3/2020 6:49 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Don't know	4/2/2020 2:29 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> no	4/2/2020 2:23 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> none	4/2/2020 1:52 PM	View respondent's answers	Add tags ▼

Q7

Save as ▼

Could you, please, prioritise and list the name of viral disease(s) for which such identification mechanisms are in place?

Answered: 6 Skipped: 0

RESPONSES (6) **WORD CLOUD** **TAGS (0)** 🔒 Sentiments: OFF

☐ Apply to selected ▼ Filter by tag ▼ 🔍

Showing 6 responses

<input type="checkbox"/> COVID-19	4/6/2020 1:21 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> -	4/3/2020 9:47 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> There are doctors, clinics, institutes and scientists who/which are specialised.	4/3/2020 6:49 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> COVID-19:	4/2/2020 2:29 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Covid-19	4/2/2020 2:23 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> COVID 19 and other nosocomial infections for virus (above for bacterial)	4/2/2020 1:52 PM	View respondent's answers	Add tags ▼

Q8

Save as ▼

For the most relevant type of infections and disease area(s) identified in the previous response, please, indicate the care setting(s) they refer to. Please, use ICUs for Intensive Care Units, H for hospitals and CC for community care (e.g. bacterial infectious for respiratory diseases in ICUs).

Answered: 6 Skipped: 0

RESPONSES (6) WORD CLOUD TAGS (0) Sentiments: OFF

☐ Apply to selected ▼ Filter by tag ▼ Search responses

Showing 6 responses

<input type="checkbox"/> CC; H; ICU	4/6/2020 1:21 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> MRSA and E. coli in ICU and Hs.	4/3/2020 9:47 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> ? I am not an expert and unable to answer this question.	4/3/2020 6:49 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> All	4/2/2020 2:29 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> ICU H	4/2/2020 2:23 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> ICUs, H nosocomial infections either virus, bacterial	4/2/2020 1:52 PM	View respondent's answers	Add tags ▼

Q9

Save as ▼

What is the responsible institution in your country/region for the identification and prioritisation of infectious diseases? Is it a Government and/or regional/local health authority?

Answered: 6 Skipped: 0

RESPONSES (6) WORD CLOUD TAGS (0) Sentiments: OFF

☐ Apply to selected ▼ Filter by tag ▼ Search responses

Showing 6 responses

<input type="checkbox"/> Croatian Institute for Public Health, Teaching institute for Public Health DR Andrija Štampar	4/6/2020 1:21 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> CatSalut	4/3/2020 9:47 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> It is a Government authority.	4/3/2020 6:49 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Government and Region	4/2/2020 2:29 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Regional Health Authority (Servicio Canario de la Salud)	4/2/2020 2:23 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Regional and local	4/2/2020 1:52 PM	View respondent's answers	Add tags ▼

Q10 Save as ▼

Are there, in general, investments available to introduce innovative rapid diagnostics for infectious diseases in your country?

Answered: 6 Skipped: 0

RESPONSES (6) **WORD CLOUD** **TAGS (0)** Sentiments: OFF

☐ Apply to selected ▼ Filter by tag ▼ Q

Showing 6 responses

<input type="checkbox"/> no	4/6/2020 1:21 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> -	4/3/2020 9:47 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Yes	4/3/2020 6:49 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Yes	4/2/2020 2:29 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Yes	4/2/2020 2:23 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Yes	4/2/2020 1:52 PM	View respondent's answers	Add tags ▼

Q11 Save as ▼

If yes, what are these investments about? What is their amount? What are the technologies involved?

Answered: 5 Skipped: 1

RESPONSES (5) **WORD CLOUD** **TAGS (0)** Sentiments: OFF

☐ Apply to selected ▼ Filter by tag ▼ Q

Showing 5 responses

<input type="checkbox"/> -	4/3/2020 9:47 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> An health institute is responsible on federal level. I don't have any information about the amount and technologies .	4/3/2020 6:49 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Should check	4/2/2020 2:29 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Research and innovation funds (40 millions euros)	4/2/2020 2:23 PM	View respondent's answers	Add tags ▼
<input type="checkbox"/> Usually through Hospitals budget. Lately also IPP calls from the Department of Health	4/2/2020 1:52 PM	View respondent's answers	Add tags ▼

Annex IV

EURIPHI Health & Social Care Regions Network Discussion lunch during the 1st European Value Based Procurement Conference The Hotel (Brussels), 12 December 2019

Minutes

1. Relevant material

No relevant material was presented during the discussion lunch.

2. Action plan

Action #	Action description	Who	Due date	Status (Done, Ongoing, Delayed...)
1	Invitation of participants to next EURIPHI Health and Social Care Regions Network meeting with external speakers	Isabella Notarangelo	TBD	Ongoing
2	Invitation of participants to International Roundtable with EURIPHI VB CoP representatives			
3	Follow-up with participants on the main outcomes of the discussion	Isabella Notarangelo	TBD	Ongoing

3. Participants

Name	Organisation
Mildred Kealy-Jensen	Region Southern Denmark
Marco Di Ciano	InnovaPuglia
Iñaki Gutiérrez Ibarluzea	BIOEF
Ion Arrizabalaga	AQuAS
Magnus Stridsman	Östergötland Region
Nick Batey	Welsh Government
Ifan Evans	Welsh Government
Alan Brace	Welsh Government
Andrew Smallwood	NHS Wales
Joanne Lidd	NHS Wales
Alyson Brett	NHS
Solvejg Wallyn	Flanders Region
Geert Peuskens	Flanders Region
Isabella Notarangelo	MedTech Europe
Valentina Polylas	EUREGHA
Cristina Macovei	MedTech Europe

4. Minutes of Network Meeting – 12 December 2019

The EURIPHI Health & Social Care Regions Network discussion lunch took place on 12 December 2019 in Brussels, in the framework of the 1st European Value Based Procurement Conference.

The invitation was addressed to EURIPHI Health and Social Care Regional Authorities representatives and Advisory Board members as well as to regional representatives not belonging to EURIPHI consortium but with a high interest in innovation / innovation procurement.

The event – facilitated by EUREGHA - gathered representatives of 8 regional authorities, among the others. The talking points identified in the agenda were:

- Status of the EURIPHI Health & Social Care Regions Network
- Reflection on cross-border cooperation on value-based PPI.
- Regions readiness for value-based PPI and identification of unmet needs

After having presented the purpose of EURIPHI and the status of EURIPHI Health & Social Care Regions Network, the participants were asked to reflect about cross-border cooperation on value-based PPI, providing their concrete experience.

One of the examples presented was the HAPPI EU-funded project. According to the participants, cross-border joint procurement is difficult to perform, due to several barriers, e.g. language, country-based legal framework and reimbursement systems. Also differences in health system organisation were mentioned.

Besides the barriers, the participants reported that cross-border joint procurement could be an interesting exercise, providing knowledge to involved PPOs about until which point of the tender process is valuable to collaborate, where final purchasing should be done at regional / localised level. Also purchasing at national level could bring some critical points to manage.

Some examples of successful cross-border procurement were also shared, e.g. in the area of healthy ageing where a combination of services and products occurred.

Participants suggested that it is necessary to assess the trade-off between innovation and transnationality. Also, the supply capacity of SMEs shall be considered. SMEs could be interested in taking part in a competitive dialogue but not having the capacity to cover the size of cross-border markets. Participants suggested that strategic intervention at the EU level shall be done between instruments supporting SMEs and procurement's needs.

Participants agreed that the needs identification and prioritisation must be the starting point. In many regions, this mechanism is not in place. The procedures to identify and prioritise the needs have to be transparent. In this way, they could be replicated across the borders.

The specifications to purchase a solution should be aligned to a clear procedure of needs identification and prioritisation. This alignment would reduce the gaps between demand and offer of health and social care services provision. EURIPHI's added value stands in supporting regional authorities to identify and prioritise their needs. This is perceived as a priority and a starting point paving the way for collaboration across the borders with localised decision making.

A dialogue between regional authorities and innovators should be promoted, to raise awareness about the financial burden of health and social care service provision, e.g. diagnostics.

The overall challenges experienced by health and social care authorities when it comes of cross-border innovation procurement are difficult to be faced at the same time. Thus, the focus in this phase – where

differences across borders occur - should be on shifting towards value-based procurement and, as last step, performing cross-border joint procurement with regional / localised decision making.

To conclude, participants discussed about the necessity of having appropriate data and analytics to ensure a shift towards value-based procurement. thus, a common way to measuring value should be promoted. Identification and prioritisation of unmet needs is a first the step and EURIPHI could support in formalising a methodology that could be replicated. Joint procurement across the border requires transparency and regional / localized decision making should apply. Industry and payers should collaborate to ensure transparency of costs and outcomes. Value stands in this collaboration.

Annex V

EURIPHI International Roundtable

An opportunity to discuss about the EURIPHI cross-border joint procurement model: a trade-off between innovation and transnationality.

The Hotel (Brussels), 10 March 2020

Report on outcomes

1. Relevant material

The speakers presented their view with the support of PPTs. The PPTs have been also shared with the EURIPHI consortium partners.

2. Participants

EURIPHI IRT participants took part in the event face to face and via Skype.

3. Discussion

The EURIPHI International Roundtable took place on 10 March 2020 in Brussels, to debate about cross-border value-based innovation procurement as a means to respond to patients and health systems' common unmet needs.

The event gathered representatives of European, national and regional authorities, Public Procurement Organisations (PPOs) and the Industry. The discussion was centred on what are the opportunities and challenges of performing joint procurement across the borders. The speakers shared also the outcomes of EU funded initiatives on cross-border innovation procurement, including the RITMOCORE PPI H2020 project. Finally, the EURIPHI cross-border procurement model was presented. The overall goal of the event was to stimulate the debate on how to facilitate the cross-border cooperation and to define the most efficient and effective cooperation along the tender process, while maintaining a localised decision making.

Procurers, suppliers and legal experts recognised that performing procurement across the borders generates learning on the transposition of the [Directive 2014/24/EU on Public Procurement](#) in different countries and on national legal frameworks. Moreover, cross-border procurement fosters the exchange of good practices and builds relations for future collaboration among partners. The creation of EHPPA – an alliance of non-profit Group Procurement Organisation - in 2012 is a valuable example.

By performing joint procurement, procurers involved might share the risk of common tender procedures and stimulate the market increasing their purchasing power. Participating in a joint tender procedure across the borders, is expected to foster mechanisms of identification and prioritisation of common unmet needs. Therefore – in support of a cross-border approach - health authorities and health care providers are encouraged in defining what are the highest priorities in their agenda as well as the resources to invest to meet these priorities. If the institutions involved prioritise the same unmet needs, cross-border procurement could bring to positive consequences – including knowledge sharing and economy of scale - in the health systems.

Patients might also benefit from cross-border cooperation, considering for example who suffer from rare diseases or in case of a pandemic.

Finally - from an EU perspective - suppliers (especially SMEs) and buyers might benefit from cross-border cooperation: suppliers due to increased market access opportunities and buyers due to increased competition.

However cross-border cooperation brings some challenges.

One of the challenges is related to language barriers, which requires the translation of the whole tender documentation and implies the time extension of the process.

Likewise, differences in national legal frameworks could increase the complexity of performing joint cross-border procurement. Even if the European Directive 2014/24/EU on Public Procurement had the objective to harmonise the different national public procurement laws, the Member States did not have the obligation of transposing all the rules in their national law. For this reason, there are still many differences across countries.

Cross-border joint procurement requires relevant additional human and financial resources compared to a local/national tender. These are due to: common needs definition; legal research; communication towards suppliers; translations. An issue raised during the discussion was that – despite the benefit of common unmet needs prioritisation brings to positive effects to patients and health systems – it is unlikely in the reality that different institutions prioritise the same unmet needs. This could happen between partners with the same structure in contiguous geographical areas. Therefore, flexibility is required, and the selected solution may not perfectly address the unmet needs of one of the two parties.

In addition, the way the provision of health care services is organised differs heavily between countries and in some cases within the same country. This entails a very tailored approach in the definition of what it is required from the market and on the outcomes to achieve, which impacts on tender specifications.

In general, to deploy a successful ‘Marketing Mix’ (*Product, Price, Place, Promotion, People*) - which is crucial to respond to specific needs - local differences shall be taken into consideration.

The effect of cross-border cooperation on competition is unclear. If on the one hand, cross-border cooperation could increase competition and encouraging SMEs to access new markets, on the other hand, it could bring to more concentration of orders. Also, it should be recognised that SMEs mainly operate locally. Concentration could impact negatively on the viability, growth and jobs of other suppliers (not awarded) in the market. This can lead to reduce investments / commercialisation effort in these markets. Finally, concentration could limit further opportunities for innovation, given that most probably the awarded companies will take a big market share.

Finally, cross-border cooperation could lead to higher prices in general, given that no longer differences in pricing policies across the countries are applied.

Performing cross-border *collaborative* procurement could bring to relevant opportunities, although it is a complex procedure. A well-defined cross-border collaboration between European public procurers is key to generate more benefits for end-users through value-based procurement.

The aspect of stakeholders’ collaboration was deepened during the presentation of RITMOCORE PPI H2020 project, being one of its core elements. The project’s aim is to address the evolution in the treatment of patients using or in need of an implantable pacemaker by means of PPI. RITMOCORE PPI responds to unmet needs in the current hospital-centred service model by bringing innovations closer to patients. To do so, several actors take part in the co-creation process, including the patient. The collaboration among stakeholders is key also in the purchasing model of innovations proposed by the project. RITMOCORE PPI explores the development of a win-win purchasing model able to better address the current interests of all the involved stakeholders. The model provides proper incentives to build the best sustainable care for citizens in a long-term view. Regional vision should be pursued, to envisage a comprehensive change management strategy with appropriate plans and regulations. Local initiatives should be encouraged to deploy an innovative model of care enhanced by a critical mass of

digital technologies, with the commitment of all the stakeholders. To translate this into practice a cross-border procurement procedure applied in RITMOCORE PPI foresees a lot for each of the participating procurement organisations.

EURIPHI conceived a tool to optimise stakeholders' collaboration across the borders, likewise RITMOCORE PPI. This tool, also known as the EURIPHI cross-border collaborative procurement model, takes into consideration the EU context of cross-border joint procurement as well as the opportunities and challenges faced by the demand and supply side. According to the EURIPHI model, two or more public procurers with similar needs and structure cooperate in the pre-tender phase but tenders are issued individually taking into consideration the national / local specificities. By enabling local decision making, the risks of performing the whole procurement process across the borders are mitigated and the opportunities exploited.

After the presentation of the EURIPHI model, attendees were invited to share their experience and provide input on how to facilitate the value-based cross-border cooperation.

According to the participants' view, performing procurement across the borders could be a driver for local SMEs and start-ups to scale-up foreign markets. SMEs and start-ups need to be supported on how to put in place international outreach strategies. If this happens, regions could leverage the positive effect of cross-border value-based innovation procurement for health systems and society. Considering the national / local dimension is key to respond to patients, and health systems' unmet needs.

Besides the opportunities of performing cross-border joint procurement, the audience recognised what are the challenges. The most difficult part during a cross-border joint procurement is the tendering phase, where legal frameworks and language differences are critical aspects to address.

In general, the collaboration among stakeholders across the borders could be fostered by simplified European procurement rules. Therefore, cross-border procurement challenges & opportunities need to be assessed on a case-by-case via cost-benefit analysis. Cooperation in the pre-tender phase and individual tender issue turned out to be an interesting model, because of its foreseeable consequences. Sharing good practices and evidence is key to foster the use of cross-border joint procurement in the EU.

The EURIPHI International Roundtable was a good opportunity to discuss about the cross-border cooperation to respond to COVID-19. A critical aspect to address is to collect relevant information to make decisions and allocate resources.

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Links

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